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ABSTRACT

Practical guidelines are provided for the development of training programs for educational research workers. There are five chapters. Background, objectives, and organization of the seminar are discussed in the first chapter. The second chapter examines common directions, trends, and problems in the educational research of the Asian and Pacific countries. In the third chapter provisions for training educational researchers are examined, such as existing structures, needs, inadequacies, and directions for change. Guidelines for training educational researchers are provided in the fourth chapter. The concluding chapter contains suggestions and recommendations. A list of seminar participants is provided. (RM)

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EDUCATIONAL RESEARCH AND TRAINING IN ASIA AND THE PACIFIC

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Report of a Regional Seminar

22 October - 5 November 1981

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FOREWORD

The most fundamental and important condition to achieve the best results in the complex field of education is, in my opinion, concerted action of all the people concerned toward the improvement of education. On the other hand, it is necessary, for the realization of the qualitative improvement of education, for all the educational personnel at different levels to take research oriented actions such as critical examination and analysis of existing situations and explorations of ways and means for their further improvement. These two together require systematic provisions for developing required skills and attitudes for educational research in the personnel involved in education.

The Regional Seminar on Educational Research in Relation to Educational Reform organized jointly by the National Institute for Educational Research (NIER) of Japan and the Unesco Regional Office for Education in Bangkok in 1979 paid a special attention to the training of educational researchers.

Consequently, the National Institute for Educational Research (NIER) of Japan acted as host, at the request of the Unesco Regional Office for Education in Asia and the Pacific in Bangkok, for the Regional Seminar for the Training of Young Educational Researchers held from 22 October to 5 November 1981. This publication is an outcome of this Seminar.

The intention of this publication is to provide a picture of the overall situation of educational research and training of educational researchers in the Asian and Pacific region, and practical guidelines for the development of training programmes for educational research workers. It is hoped that this publication might give a boost to further explorations and development of a meaningful training programme for educational research workers. This is a very important element for the qualitative improvement of education in this region.

I would like to express my deep appreciation to all the participants of the Seminar for their outstanding contributions to the success of the Seminar. In particular, I am grateful to Mr. John E. Watson, Director, New Zealand Council for Educational Research, for substantive review of the entire manuscript of this report. I would also like to express my sincere thanks to the Unesco Regional Office in Bangkok for having given NIER the previlege of hosting the Seminar, and to the Japanese National Commission for Unesco and the Ministry of Education, Science and Culture of Japan for their continuous support extended to NIER activities.

Hiroshi Kida
Director General
NIER

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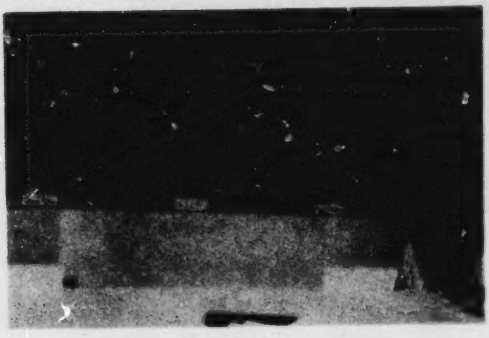
Mr. H. Kida, Director General of NIER inaugurated the Seminar.

Participants of the Seminar.



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Chapter I

INTRODUCTION

Background

A variety of educational research projects are being undertaken by all the participating countries of the Asian Programme of Educational Innovation for Development (APEID). Further, several joint innovative projects have been launched during the second cycle (1978—1981) of APEID which are basically action oriented research and are intended to fill gaps in certain areas of educational improvement under APEID.

In support of such an endeavour, a Regional Seminar on Educational Research in Relation to Educational Reform in Asia and Oceania was organized in 1979 by the National Institute for Educational Research (NIER) of Japan within the framework of APEID. This Seminar, among others, recommended that to develop a self-sustained research capacity in each member state, the training of educational research workers should be given high priority.

Along with the need to strengthen educational research activities and thereby required capacities of the countries in the region, the Unesco General Conference, at its twenty-first session authorized the Unesco Secretariat to organize a regional seminar in the Asian and Pacific region for the purpose of contributing to the training of young educational research workers in the region.

Upon the request from Unesco, the National Institute for Educational Research (NIER) of Japan acted as host for a Regional Seminar for the Training of Young Educational Researchers from 22 October to 5 November 1981, within the framework of the joint activity under APEID between NIER and the Unesco Regional Office for Education in Asia and the Pacific, and its Asian Centre of Educational Innovation for Development (ACEID), in collaboration with the Japanese National Commission for Unesco and the Ministry of Education, Science and Culture of Japan.

Objectives of the Seminar

The objectives of the Seminar were:

i) To review the state of educational research and practice and to exchange information and experiences on the types and content of training of researchers in terms of infrastructures, programmes and methodologies; and

ii) To develop a training manual/guidelines for educational researchers, particularly for the young researchers.

Participation

The Seminar was attended by seventeen participants from 14 countries, one from the Regional Centre of the Southeast Asian Ministers of Education Organization (SEAMEO), and three resource persons, namely, Dr. S.K. Mitra (India), Prof. S. Okada (Japan) and Dr. Jasmin E. Acuña (Philippines). Unesco was represented by Dr. M.C. Pant, Specialist in Science Education, Asian Centre of Educational Innovation for Development (ACEID), Unesco Regional Office, Bangkok. (for list of participants see Annex I).

Inauguration

The Seminar was inaugurated by Mr. Hiroshi Kida, Director General, National Institute for Educational Research (NIER) of Japan. He extended a warm welcome to all the participants of the Seminar and thanked the Unesco Regional Office for Education in Asia and the Pacific, Bangkok, the Japanese National Commission for Unesco and the Ministry of Education, Science and Culture of Japan for their collaboration in organizing the Seminar.

Mr. Manabu Yamamoto, Director General of the Unesco and International Affairs Department, Science and International Affairs Bureau of the Ministry of Education, Science and Culture of Japan delivered a welcome address on behalf of the Japanese National Commission for Unesco and the Ministry of Education.

Dr. M.C. Pant, Unesco, Bangkok thereafter welcomed the participants on behalf of Unesco and thanked the Government of Japan and NIER for agreeing to host the Seminar. He also briefly explained the scope and emphasis of the Asian Programme of Educational Innovation for Development (APEID).

Officers of the Seminar

The Seminar elected the following office bearers:

Chairperson	:	Dr. Sung-Jin Lee (Rep. of Korea)
Vice-Chairpersons	:	Dr. Mazharul Haque (Bangladesh)
		Dr. Josefina R. Cortes (Philippines)
Rapporteur-General	:	Mr. John E. Watson (New Zealand)
Rapporteurs	:	Mr. S.N. Tripathi (India)
		Dr. Hussein Haji Ahmad (Malaysia)
Rapporteurs in sub-group	:	Dr. Iftikhar N. Hassan (Pakistan)
		Mr. Graeme Kemelfield (Papua New Guinea)

Organization and Documentation

The Seminar met in plenary and group sessions. The main items of the agenda as adopted for the Seminar were as follows:

1) Presentation of discussion papers on educational research and training of educational researchers
2) Discussions on educational research and identification of common problems, issues and trends in educational research
3) Discussions on training of educational researchers and identification of training needs and strategies
4) Development of guidelines for the training of young educational researchers.

The main documentation of the Seminar consisted of:

i) Discussion papers prepared by the participants and the resource persons; and

ii) Special papers on educational research and training of research workers presented by some of the participants and the Secretariat.

Final Report

The draft of the final report was presented and adopted at the closing session on 5 November 1981, with the suggested modifications and corrections, which have been incorporated in this final report.

Chapter II

EDUCATIONAL RESEARCH AND PRACTICE IN ASIA AND THE PACIFIC

— Common directions, trends and problems —

I. THE ORGANIZATION OF RESEARCH

The over-all configuration of educational research in the various countries of the region is now implemented through five types of institutional structures* which are similar to those identified at a recent Unesco-sponsored international colloquium in Bucharest**. These are:

i) University-based centres, departments, units and faculties
ii) National educational research centres
iii) Autonomous, private, educational research institutions
iv) Research divisions or units in government ministries
v) Local educational research centres, units or schools.

It is clear that the value of research in advancing educational innovations and more effective teaching practices has been recognized in Asian and Pacific countries for many years but the setting up of special institutions to plan and manage comprehensive research policies or programmes is a much more recent development. These policies, and the organizational arrangements through which they are implemented, are a contemporary response to the diversity of needs that appear when nations seek qualitative improvements in their systems of education. Most countries for example have now established relatively independent, national, research bodies, which are obliged to address general policy issues but which may be closely associated with either government ministries or universities. Local research centres or units, on the other hand, are usually more concerned with

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* Readers will recognize that the five types of research organization are not always found in every country.

** International Colloquium: "Research and Practice in Education": Bucharest, Roumania, 10 — 15 November 1980. (Report was published by Unesco, Paris)

school-based research, curriculum development, the in-service training of teachers, or more effective use of teaching materials. Fortunately, in most countries, a commendable level of collaboration has been achieved between these various agencies, at both national and local levels, so that duplication appears to have been generally avoided.

Hitherto, studies undertaken for academic purposes in university departments and research centres have tended to predominate in the total volume of research completed. In most countries, universities are also more concerned with basic theoretical studies and with promoting reflection of educational philosophies or historical and comparative studies. It is important that these studies should continue to be supported even if this knowledge is not utilized immediately.

In more recent times, governments have come to exercise an increasing influence on the volume, direction and quality of research carried out by institutions supported from public funds. Ministry of education and other government bodies, have a common interest in educational research relevant to national policies, which may be required for decision on planning, curriculum reform, language policies, textbook supply and so forth. As a result, most ministries now have educational research centres, units or bureaus which undertake feasibility assessments, or base-line surveys and evaluations of existing teaching practice.

The growing number of national centres for educational research and development, whether within the framework of a ministry of education, or more autonomously established, is a further expression of this trend. It confirms that governments are usually anxious to ensure that their investment in research leads to improvements in teaching or administrative practices through effective dissemination, advisory or consultative services, and adequate coordination between the agencies involved.

This emphasis upon coordination and collaboration finds further expression in the opportunities that have arisen for nations to join together in tackling common problems of planning or curriculum development. For the most part this broader collaborative effort in Asian and Pacific countries has been encouraged by organizations such as Unesco, UNICEF and UNDP. Significantly, a number of the regional innovative projects initiated by Unesco and other organizations have brought about collaboration between both government and non-government research institutions. These international activities have reaffirmed too, the importance of national educational research centres in acting as clearing houses for research information in each nation, and for promoting professional collaboration at an international level, among research personnel employed in local, provincial or national centres.

II. THE PURPOSES AND DIRECTIONS OF RESEARCH

From the participants' reports, it is evident that efforts to improve curricula, teaching practices and classroom learning have stimulated a wide variety of educational research activities. These range from broad evaluations of primary schooling to narrower studies of attrition rates and reactions to low-cost teaching materials. Given the commitments of governments, it is to be expected that there is a considerable emphasis upon administrative research primarily concerned with the collection of data about the number and location of educational institutions, student enrolments, numbers of teachers by levels and qualifications, analysis of examination results and the like. But specialized institutes have also set up coordinated programmes of educational research into child development and family-planning behaviour, into various social issues and disadvantaged children, into services for the selection, classification and placement of personnel in various fields, into career orientations and the evaluation of training programmes. Other institutions have a special concern for educational legislation, formal and non-formal education, adult education, or physically handicapped children and similar special areas. There was agreement that many institutions would welcome a systematic effort to develop documentation services so that the growing volume of research now being produced in Asian and Pacific countries could become more widely known.

1) New objectives

Participants in the Seminar felt that discernible efforts were also being made to shift the focus and emphasis in research concerns. The view was advanced that educational research in Asian and Pacific countries in the past has tended to concentrate upon relatively narrow interpretations of the psychology of learning or of manpower planning and economic development, whereas the more recent emphasis has more commonly been upon interactive approaches to the study of teaching in classrooms, broader perspectives on the whole process of socialization in child development and more rigorous enquiries into the effective use of educational technology. In brief, it was felt that the current effort is aimed more toward research that will improve the quality of learning and teaching. This has also led to a more common use of approaches and perspectives drawn from the major social science disciplines, such as sociology, psychology, economics and linguistics.

2) Relationship with educational practice

It was widely accepted by the Seminar that educational research must be promoted and designed more directly toward a clarification of the problems of primary concern to teachers, administrators and those concerned with qualitative improvements in educational practice. Not all problems of teaching practice, especially as they are seen in the broader context of national values, are amenable to research but equally a wide range of issues are not likely to be clarified without the application of systematic research methods and procedures. The call for a stronger orientation toward the practical problems of teaching is not motivated by any suggestion of reviving the old debate between the advocates of "pure" and "applied" research.

The linkage of educational research to the advancement of the professionalism of teachers and their understanding of suitable practices and curricula is aimed directly at bringing about a qualitative improvement of education systems. Another objective is to gradually expand the professional autonomy of teachers, especially where they have been accustomed to highly centralized forms of administration. The geographic diversity of large countries and a growing interest in participatory planning suggest that more attention may need to be given to the problems of dissemination at both national and local levels.

The Seminar was equally concerned, however, that the linking of educational research to practice should bring about gains too for individual learners in classrooms and other learning situations. A large part of the research enterprise may therefore be directed toward the development of improved instruction through the use of better teaching aids, well-designed textbooks, and more extensive use of technical equipment. Similarly, much research may also be directed toward assisting teachers to perceive more sensitively and comprehensively the attributes and qualities of the students they teach and toward the removal of impediments to their personal development.

3) Involving teachers in research

The concern for classroom learning, and the professionalism of classroom teachers has stimulated a fresh interest in several countries in integrated interpretations of the research task. It was suggested that an emphasis on the dynamic qualities of educational phenomena has encouraged more research into classroom contexts and a greater awareness of the antecedent conditions in providing for more effective learning environments. These approaches have become rather more common in supplementing large-

scale surveys with penetrating studies of small numbers of schools and even individual schools in some cases.

In fact, the persistent concern expressed throughout the Seminar was with the role of classroom teachers in responding to or in promoting research. The Seminar was gratified that a growing number of teachers in Asian and Pacific countries are being given an opportunity to participate in educational research projects or to generate topics for research under academic supervision or with the help of local agencies. There was common agreement however, that more could be done to prepare and encourage teachers to assist with educational research activities and to adopt more critical attitudes toward their own teaching practices. It was suggested that they need a clearer view of the research tasks called for in projects intended to revise curricula or to monitor an innovation. As an added advantage, the involvement of teachers could provide opportunities for educational research workers to discuss, in an appropriate setting, the practicality of the tools and methods incorporated into the design for the research. Hence while teachers may acquire a new appreciation or a new skill, an equally important outcome could be the scope the educational research worker will have to share in the day to day realities of school life. It was emphasized that the role of educational research in the school is to demonstrate that a disciplined approach to the analysis of behaviour in a human setting promotes open-mindedness and a problem-solving attitude.

III. TRENDS IN EDUCATIONAL RESEARCH

1) Techniques and procedures

It was felt that significant advances had also taken place in improving research and analytical techniques. The need for more educational research using multi-variate designs and longitudinal observarions was recognized and concern was expressed about provisions which will enable more research of this kind to be promoted. Generally, it was recognized that the conditions which prevail in the academic institutions of many Asian and Pacific nations do not make it easy to adopt such procedures. Some of these restraints arise from the fact that the overwhelming proportion of studies continue to be masters' or doctoral dissertations where data has to be collected in a short space of time. The use of more sophisticated techniques may therefore require some restructuring of research enterprises and the development of a new generation of educational research workers accustomed to working in coordinated, institutionally-supported research teams. There was a strong interest in ensuring that these objectives are implemented.

This discussion underlined that an interest in such methodological issues has been growing in Asian and Pacific countries. There was an increasing awareness, for instance, of the value and importance of non-quantitative approaches from in-depth analysis of ethnographic strategies to participant observer or other participative approaches and the more traditional modes of enquiry used in comparative education or historical studies and so on. It may be said that a deep concern about the quality of educational research to be promoted was often reflected in an acceptable compromise between the search for relevance to the issues of teaching practice and the desire for intellectual and methodological rigour in the application of quantitative methods of analysis.

2) Trend toward professionalization of educational research workers

Educational research is as necessary and demanding an occupation as the research activities of other disciplines. Its development as an empirical field of enquiry rather than as a branch of the disciplines of sociology, psychology, economics and others has led to the recognition of educational researchers as a body of professionals. Recent trends in the region indicate that there has been an increasing application of basic principles and the methodological elements of any scientific enquiry in the research promoted. This trend has heightened an awareness among educational research workers of the need to promote a sense of professionalism with an interest in, and a concern for, high standards of professional conduct. The Seminar emphasized the importance of a professional code of ethics as a guide in preserving the privacy of informants, in respecting the confidential nature of data that is assembled, and in deciding how to communicate the outcomes of research.

It was also agreed that insufficient attention had been given so far to career opportunities and prospects for research workers in education, whether they are employed in government ministries or specialized institutes or as university teachers. The provision of incentives for educational research workers in terms of adequate salaries, more permanent appointments, better promotional prospects, good working conditions and support from the teaching profession of each country was seen as necessary in promoting better quality research.

3) Multi-disciplinary approaches

Another aspect of contemporary educational research in the region of Asia and the Pacific which was much stressed by participants, was the increasing appeal of multi-disciplinary approaches. Education, and especial-

ly education related to national development or curriculum change, is essentially multidisciplinary in the sources of its knowledge, insights and understanding. Research aimed at resolving or clarifying serious national or local problems is frequently obliged to make use of the insights and analytical procedures of a variety of disciplines. An interdisciplinary approach may be adopted more readily where appropriate organizational forms (e.g. team research in specialized institutes) are available as well as management practices and research procedures to ensure specialists come together in a productive way.

4) Research and national development

It was accepted too that the concept of equality underlying the democratization of educational services has resulted in general change in the purposes of research activities. This is a consequence of the recognition by research institutions that education systems are created not only to enrich the development of individuals but also in the national interest. National purposes, traditions and ideals, and their expression in schools may therefore have important implications for the research that is taken up and how it is conducted. The type of educational research which each nation seeks to advance usually reflects its national objectives, its current problems and preoccupations, as well the expectations that are held about the essential obligations of the sector of the school system under consideration.

IV. COMMON PROBLEMS

The review of experience presented in the participants' papers makes it clear that the role of research in improving educational practices in Asian and Pacific countries has become increasingly positive. It cannot yet be claimed that in all countries research has a prominent place in the professional concerns of teachers, or even administrators who shape national policies. Clearly, it has to be admitted that, broadly speaking the influence of research is still relatively weak and fragmented in most countries, but its promise has now been identified in the successes achieved in action programmes aimed at the development of new instructional materials, revised curricula, improved selection procedures and provisions in various countries for handicapped children. From this experience there is a wider appreciation of the problems that commonly arise when nations seek to expand both the volume and quality of research to other sections of their education systems.

Generally such common problems relate to the clarification of

priorities, the training of research personnel, the provision of adequate facilities, and the development of effective means for communicating fresh knowledge or for utilizing the findings of soundly-based research.

1) The clarification of priorities

Priorities in research may be interpreted as the choices that are made by governments, planning agencies, particular institutions, or individual scholars in deciding what kinds of research they wish to promote or undertake. Frequently the issue is seen as one of finding or financial support but this over-simplifies the complex questions that originate from theoretical considerations, institutional capacities, and prospects for collaboration from teachers.

There was considerable discussion about the relative priorities between small projects (*micro-level*) and large-scale national assessments (*macro-level*). Some participants considered small-scale researches to be more useful than large-scale research surveys on the grounds that in-depth studies are of greater interest to teachers. Large-scale studies on such topics as the universalization of education, the education of women or on educational opportunities for rural children tend to be done by national centres, ministry of education or international agencies and are needed to direct specific reforms. On the whole, the general view was there was no basic conflict between small-and large-scale research but that a balance has to be achieved between them Adoption of one or the other strategy depends upon the need and objectives of national research policies, at a particular time but both approaches has a place in promoting an alert professional outlook.

2) The training of research personnel

The purpose of this Seminar has been to concentrate upon the widely recognized need for improved training of research workers. Hence the main emphasis of this report will be devoted to that topic. It may suffice here therefore to reaffirm that the reports presented by the participants to the Seminar indicate that as the purpose, scope and methodologies of educational research become oriented toward qualitative improvement of education, the training of educational research workers presents itself as problem in every country.

A common concern was expressed at the Seminar about the adequacy of graduate training being offered. It was felt that existing courses often over-emphasize or create misunderstandings about the role of statistical procedures and give too little attention to the conceptual analysis of re-

search purposes. Commonly, it was felt too that insufficient attention was given to practical experience in research settings, and to in-service training for the different levels of competency required in research teams or organizations, and at different stages in the careers of professional research workers. The Seminar, as a whole became deeply convinced that a first objective in improving the quality, range and relevance of educational research in Asia and the Pacific should be to improve, as quickly as possible, the calibre and competencies of the existing workforce for research.

3) Sensitivity to socio-cultural contexts

Educational research, as it has been practised in recent times, has emerged from the research writings of scholars who are familiar with Western societies and cultures. For the most part, the research techniques or procedures being used in the region are still adaptations, or adoptions from outside. There is therefore a need not only to encourage critical evaluations of their appropriateness, but also to stimulate a capacity for devising new procedures suited to Asian and Pacific contexts.

Similarly, the involvement of people in rural areas for example, who are barely literate, or enquiries being undertaken within linguistically or ethnically different groups creates many complex problems even for very sophisticated research personnel. The multiplicity of languages and dialects has to be considered very carefully in conceptualizing research tasks, in choosing methodological procedures, in interpreting data and in deciding how the outcomes of educational research are to be made available publicly. In some instances too, special problems may arise in ensuring that various ethnic or linguistic minorities are represented in the research teams undertaking particular enquiries.

4) Adequate facilities

While the Seminar did not draw up specifications for the kinds of facilities that are required for various purposes and types of educational research, it was apparent that many participants felt that research in their country was generally handicapped by inadequate libraries, computer equipment, photo-copying equipment and similar physical facilities.

It was recognized that a dramatic expansion of computer facilities sometimes leads to an over-emphasis on the collection of vast quantities of data. This may introduce unexpected management obligations in directing analytical operations and at times these are not compensated for by a proportionate advance in intellectual understanding. Nevertheless, for wise and well-informed planning of educational research it was agreed that a capacity

to use computer-based library information systems should be encouraged. It was accepted that research workers should be expected to be familiar with the use of computers for the analysis and storage of data and to know where to seek specialist advice on them when it is needed.

5) Dissemination and utilization

There was common agreement too that the development of provisions for publishing the outcomes of research, for the demonstration of new approaches to teaching or for the care of handicapped children, and for conferences or in-service experiences for teachers to become acquainted with new knowledge, requires as much planning as the formulation of research policies. The expansion of the organizational provisions for research, the decentralization of educational administration, the increasing professionalism of teachers' organizations and growing interest of the general public, all underline the need for a careful consideration in each country of the flow of professional knowledge to schools, and administrative agencies.

Research should have a positive function to perform in all of these contexts in implementing the educational policies of each nation. It is agreed that research should contribute to informed and wiser decisions at all levels, policy research for those who shape national priorities; strategy research for institutional administration; action research for skilled and sensitive teaching; and well-informed advice for parents assisting their children to improve their learning.

It was also accepted that educational research is cosmopolitan in scope. In advancing the confidence and competence of research workers as well as of the teaching professions they serve, provisions also have to be made for them to keep abreast of the world-wide search for better knowledge and deeper understandings.

Publishing and the communication of knowledge by mass means of communication is a world-wide activity and greatly influences the attitudes and values adopted by the young people. Research workers need to be clear about the impact of these influences on the knowledge they seek to disseminate and hope to have used effectively. Their findings and conclusions have to compete with many other forms of knowledge available in most nations.

The Seminar emphasized the importance of creating an understanding of research among the general public, administrators and politicians in order to advance the professionalism of teachers. A review of the experiences of participating countries highlighted the need for an increased recognition too of the role of research in clarifying a nation's traditions, contemporary needs and future prospects.

Chapter III

PROVISIONS FOR TRAINING EDUCATIONAL RESEARCHERS

— Existing structures, needs, inadequacies and directions for change —

Diversity of circumstances

The countries represented at the Seminar are extraordinarily diverse in size, historical tradition, economic resources and in their experience of cosmopolitan influences over the centuries. They included the world's most populous, as well as its smallest nations occupying distant islands in the Pacific, countries of ancient and revered tradition, others scarcely touched yet by the rush to modernity. Further diversities of language, culture and religion occur within the boundaries of several of these nations while others experience few internal difficulties of unity and communication. Faced with all these variations of history and circumstance it might be expected that training requirements for educational research personnel would be so different as to preclude cooperation in formulating common objectives.

Members of the Seminar were agreeably assured, however, that the common drive toward national development had highlighted opportunities for these varied nations to share common experiences beneficially in expanding research as one element of their national capability for advancing qualitative improvements in their systems of schooling. It was realized that these improvements do not just happen. In every country they result from careful analysis and planning, usually inspired by the desire of an individual or group to resolve a persistent problem that can no longer be overcome by traditional practices. It has been a common experience that when an innovation or new policy has been designed and initiated, the next major concern is to decide how to manage and maintain it to ensure continued success. Provisions must therefore be made for new policies or developments to be continuously monitored and evaluated since their effectiveness is best judged by sound feedback information.

The success of qualitative improvements in an education system are

particularly dependent upon the adequacy of the professional support services that exist to plan, design, implement, monitor and evaluate innovations in practice. It is true that the research capability of any nation represents only one significant component of these support services. To develop this component however, as with other, each nation is obliged to consider three courses of action:

(1) To set up training systems for the personnel required
(2) To develop mechanisms through which these services may be applied
(3) To identify the individuals or organizations designated for such tasks so that their services become widely known and used.

This report has emerged from a shaping of experience concentrated mainly on the first of these obligations.

It should be acknowledged at once that the nations represented at the Seminar occupy widely spaced phases on any historical scale. Research scholars have helped to shape teaching objectives and practices for more than a century in some countries, whereas in other places the use of research as a stimulus to change is an innovation of only the past decade. There is indeed much scope for debate on the research styles or practices that are appropriate at different phases in a nation's history. We are still not certain whether there are sequential steps to be observed in developing each nation's research capability, or in transforming an initial dependence on external influences into an indigenous research style. Nor do we know whether it is possible to telescope the experience of more advanced nations for those now embarking upon a major commitment to research as a policy direction. Generally speaking debates on these matters did not deflect the Seminar from its primary task.

Existing training provisions

In all nations represented at the Seminar, universities take a major role in providing training for prospective educational researchers. It is a common practice for this training to be given in graduate-level programmes which result in the conferring of masters' or doctoral degrees. The Seminar accepted that these provisions should be considered as introductory, or preservice training for those seeking appointments as professional educational researchers.

Commonly, two to four years of graduate training will have been preceded by a first degree designed mainly as a preparation for teaching. It is not unusual for first degree programmes to include introductory courses in educational measurement, guidance and counselling, educational psychology, the history of education and so on. Whether given in a univer-

sity department, or a school of education, or a specialized institute within a university context, the full graduate programme often includes provisions for advanced study in such separate fields as the history and philosophy of education, curriculum and development, educational sociology, educational administration and educational psychology.

As in other parts of the world however, it is not uncommon for references to specific training in research methods to focus primarily upon the courses in quantitative measurement, analytical procedures and design taken by graduates specializing in educational psychology, and to the presentation of theses or dissertations using such methods. There was much less attention in the Seminar to the practices of scholarly enquiry used by educational historians, philosophers, political scientists, or specialists in comparative education. This may simply reflect the cosmopolitan nature of intellectual trends. It has been evident that an emphasis has become prominent in educational research in the past two decades which places a special value upon the quantitative procedures favoured by contemporary psychologists, planners concerned with manpower planning and economists preoccupied within investment decisions. Throughout the Seminar it was evident that a considerable unease exists in Asia and the Pacific about the uncritical use of quantitative methods.

It was evident that training programmes at the masterate and doctoral level in many of the universities of Asia and the Pacific differ for candidates with first degrees in such fields as mathematics, science, geography or foreign languages contrasted with those who have first degrees in educational psychology or pedagogical studies. It seems less common for systematic provisions to be made for those with first degrees in music, the arts or classical studies to undertake enquiries in aesthetic education at the graduate level as rigorously as those specializing in educational psychology.

In several countries, these provisions in universities for pre-service training in research methodology, have been supplemented in recent years by the opportunities for young researchers to be recruited into project teams working on major issues of national planning. Frequently, these investigations have been financed and assisted by international agencies, foreign governments, or philanthropic foundations. While such opportunities are welcomed, there was general agreement that they can often be narrowing because the services of young researchers are usually confined to a small part of the total project.

Members of the Seminar were quick to acknowledge too that leading members of the research work-force available in their countries had benefitted from post-graduate training abroad, in their early years, usually outside the Asia and Pacific region. It has to be recognised however, that these opportunities too, are normally available only to a very small group.

Hence, they have only a limited impact on the upgrading of the competencies of the existing work-force for research in each country.

Inadequacies in existing provisions for training

Broadly, the consensus reached by the Seminar in identifying the inadequacies of the research work-force presently available in Asia and the Pacific may be summarized as follows:

(1) Inadequate appreciations of the place of statistical and quantitative procedures resulting from insufficient grounding in the conceptual purposes of educational research. It was agreed that this situation commonly leads to serious misconceptions, an undue emphasis on quantitative information, considerable confusion about the nature of valid and reliable data, and a lack of confidence and flexibility in using computer facilities or other aids to skilled analysis.

(2) Insufficient experience in practical research operations to enable young researchers to develop versatility in analyzing the nature of the researchable tasks required to cope with a given problem, a lack of ingenuity in proposing or developing manageable experimental or research designs, and an absence of curiosity about the merits of alternative methods for assembling and analyzing data.

(3) Infrequent recognition of the differing levels of competency required in staffing research teams, or research organizations, or at different stages in the careers of prefessional research personnel, and for the various sectors or components of the over-all research infrastructure needed by the education systems of modern nations.

Further, in addition to the inadequacies in the competencies of the research personnel available, participants in the Seminar voiced considerable disquiet about the intellectural calibre of the individuals being recruited for educational research activities. These misgivings began with observations on the capacity of colleges of education to compete with other professional schools for a due share of the most able individuals entering institutions of higher learning. It was noted that in most countries the subsequent selective practices permitted many to progress to graduate studies without even a brief acquaintance with the purposes of educational research, or measurement or scientific enquiry. Moreover, the conferring of a graduate degree often represented a termination of the interest in research of that minority who have shown an inclination toward intellectual enquiry.

It was recognised that a commitment to research as a professional speciality was often inspired by the corporate atmosphere of a research unit or institute or the presence of a talented university teacher whose scholarly work had attracted national and international attention, enthusiastic co-

operation from schools and success in obtaining administrative, political and financial support. It was suggested too that pre-service training carries more conviction in the minds of prospective educational researchers when they are able to observe that their initial investigations represent a distinct contribution to fresh knowledge accumulating systematically over a period.

Efforts to improve training

Throughout the Seminar it was clear that the concern being expressed about the quality of training available has not been a recent reaction. Nor was it a sweeping criticism of the many commendable programmes which exist. In fact, notable efforts have already been made to upgrade the competencies of the research work-force available in some countries. These have included:

(1) Initiatives by national research institutes to supplement pre-service training given by universities, with internship training programmes for graduate students, special research fellowships or associateships for experienced teachers, in-service training workshops, academic exchange programmes with comparable institutions in other countries, sabbatical leave arrangements, provisions for conference attendance, and public recognition for outstanding research in publications, in national honours, and in forms of the teaching profession.

(2) The preparation by universities of special handbooks, programmed texts or kit-set packages to adjust training provisions to the learning styles or learning-medium preferences of graduate students taking introductory courses on research methodology. Some of these aids have also been subjected to systematic evaluations and the results are available in well-known journals. Hence, within the countries represented, there is already some knowledge of the usefulness of handbooks for various purposes and also of comparable manuals, films, or video-tapes available from other parts of the world.

(3) The urgency of the need to upgrade competencies has led some countries to introduce compulsory components into the training given by universities and other institutions. These include requirements that an ability to use a computer language is as mandatory as a knowledge of foreign language in advanced degrees, and that success in all graduate degrees will depend upon a satisfactory presentation and oral defence of a research dissertation. Some countries have drawn upon consultative services or technical assistance from other nations in using internationally-renowned scholars to conduct intensive workshops for their research staffs.

(4) Several institutions, have also formulated distinctive staff development policies. These commonly include provisions for the flexible and participative management of research obligations,

a widespread sharing in the planning and execution of research tasks, the planning of international symposiums, and participation in collaborative projects with other nations to strengthen expertise.

Identifying areas for Improvement

As a result of their common agreement on the inadequacies in the competencies of many educational researchers in their respective countries, members of the Seminar achieved a consensus quickly on the potential value of international collaboration in preparing a set of specifications on the attitudes, skills and qualities to be expected of an alert and well-trained body of educational researchers. Despite wide differences in the aspirations of each nation, or the complexity of different systems of education, and the professionalism achieved by the teaching professions of each nation, there was a firm agreement on the attributes to be sought in providing for the progressive development of educational researchers. This emphasized that researchers should be expected to develop a thorough appreciation of the nature of scientific enquiry and a sense of professional ethics, as well as a confidence in choosing suitable methodologies, and an ability to communicate the findings of research to others.

The consensus thus revealed testifies that the nations of Asia and the Pacific are now anxious to promote education as an active agency for social and economic change. In past eras its primary function has often been to conserve the values and culture of a society. While this function will continue to have a value in promoting national unity and identity, a greater emphasis is now being placed on developing new values and behaviour directed toward the achievement of consciously-determined economic and social goals. Educational services, in the minds of participants in the Seminar, are being obliged to assume a dual responsibility, first to equip citizens at all levels and in varying contexts, with greater confidence for determining their own destinies, and secondly, to provide them with stronger motivations toward collaboration in achieving national unity, economic betterment and self-fulfillment.

The objective in modernizing education systems, it was agreed, was to enhance the capacity of schools to develop citizens able to think rationally about themselves and issues of concern to their families, communities, or nation, who know how to learn and are disposed to learning throughout their lives. For these objectives to be achieved a basic pre-requisite is that the teachers of a nation should bring such attitudes of mind to their daily work. In large measure this will depend upon their readiness and capacity to respond to new conceptions of their professional responsibilities, to

make effective use of new aids and materials, and to inspire a questing spirit in their students and the communities they serve. The Seminar accepted that objectives of this kind will create exacting demands upon the professionalism of classroom teachers in their countries. It was agreed however, that significant progress had already been achieved in the past decade in strengthening the confidence and commitment of teachers, and that their enterprise and autonomy would be enhanced further by support from improved research services.

Extending the appreciation of research by practising teachings

Accordingly, the Seminar was much pre-occupied with the role of classroom teachers in the research enterprise in three capacities:

(1) As practitioners in ordinary, demonstration or special schools who base their teaching practices on increasing professional knowledge of curriculums and sequences in child development.
(2) As partners in research or development teams.
(3) As researchers who undertake modest research tasks in shaping their own teaching styles, materials, and contexts for effective learning.

Clearly, the participants from different countries identified that some part of the vigour of more prosperous nations originated from the success with which they had identified practising teachers with research activity. It was therefore accepted that pre-service training programmes for teachers should incorporate more opportunities for prospective teachers to recognize the role of research in fostering enlightened teaching practices.

Beyond pre-service training, it was observed that a more active involvement of practising teachers is dependent upon the adequacy of the provisions made for four facilitating conditions:

First, the manner in which research-based knowledge or information, and related advisory and consultative services, become available to school principals and teachers on problems of immediate concern to them.

Second, management practices in setting up research projects in schools which assure teachers that research personnel are sensitive to the circumstances in which they are able to participate without disrupting their primary responsibility for teaching.

Third, opportunities for groups or individual teachers to propose research undertakings, modifications to curriculums or experimental projects on instructional materials. It is desirable that teachers feel able to invite research staffs to act as consultants in formulating research designs or formative and summative evaluations.

Fourth, the experience of several nations suggests that teachers

generate a constructive concern for research when they feel able to respond selectively to the presentation of conclusions at in-service conferences, workshops or in professional associations.

It was recognised that these conditions cannot be advanced quickly, and that they represent intentions for many nations rather immediate reforms. Their purpose however is to draw attention to the fact that expectations for involving teachers more actively in research require a clarification of the circumstance in each nation through which professional research workers attract the respect of the teaching profession they serve. The guidelines to follow for upgrading the attitudes and skills of educational researchers are intended to be a step in that direction.

A cautionary word

As a final word of caution, we ask users of the guidelines set out in Chapter IV to guard against over-simplifications in assuming that the modest suggestions of this Seminar will bring about a miraculous flowering of research in all countries. The Seminar has been sensitive to the difficulties involved in stimulating an effective application of new ideas in classrooms, ministries or universities and planning bureaus. To retain a sense of proportion, and to appreciate the potential, functions and problems of the activities, we label "educational research" requires an understanding of the total system of knowing about education in any society. This is a much bigger question than can be covered by a brief set of guidelines.

Neverthless, this question will have to be answered for policy makers who wish to know about the impact of research and the benefits to be obtained from an investment in the in-service training of research personnel. Expectations that research should invariably produce definitive answers to questions of administrative policy or teaching practice are almost bound to end in disappointment or inflated claims. For the most part, the abiding influence of educational research in nations where it is most prominent and vigorous has been to create a deeper awareness of the arts of teaching and of the complexity of learning in the modern world. The promise of better training for educational research personnel will not be advanced by suggestions, systematic enquiry will immediately produce dramatic solutions to questions that have exercised the minds of wise men and women for generations.

Chapter IV

GUIDELINES FOR THE TRAINING OF EDUCATIONAL RESEARCHERS

After careful consideration of the needs, priorities and experience of their respective nations, the participants in the Seminar agreed that the following general principles should be adopted in planning improved training programmes.

I. GENERAL PRINCIPLES

1. That training programmes be provided to meet the diverse needs of professional educational researchers, practising teachers, administrators and other educational personnel.
2. That training programmes emphasize the linkage between educational research and practice, and the strategies for bringing about the utilization of research.
3. That professional educational researchers have a broad foundation in educational research prior to specialized training.
4. That training programmes take into account the socio-cultural context in which research is being undertaken. This will apply to such aspects as the relevant theory, methodology and applications of research.
5. That training programmes recognize the impact of developments in science and technology on educational research.
6. That training programmes emphasize the nature of educational research as a scientific process, requiring creativity, open mindedness and questioning attitudes toward existing knowledge.
7. That training programmes have an orientation to the research problems of the future and the new types of methodology which may be needed to study them.
8. That training programmes be designed so that adequate attention is given to conceptual and theoretical analysis, design and methodological skills, communication skills, and ethical principles.
9. That training programmes develop a critical awareness of the pitfalls

to be guarded against in conducting and interpreting research.

10. That training programmes include practical, apprentice-type experience of a broad kind in several research settings or projects.

11. That the induction of educational researchers emphasize the emerging professionalization of the field of educational research, and that provision be made for developing awareness of professional activities in their specialization.

12. That provisions be made for the continuing professional development and training of career researchers in education.

13. That training programmes make provision for their own evaluation.

II. TRAINING PROGRAMMES

The Seminar felt that it is appropriate to develop guidelines for two distinct groups of educational researchers. One would be for the initial training of prospective researchers or those new to research. The other would be for the professional growth of researchers who require more advanced training. To develop an internally consistent set of guidelines, the Seminar identified several broad areas of common concern which are presented as the basic content of the curriculum proposed. These central concerns have been summarized in a schematic presentation of a conceptual framework in Figure 1.

<table>
<tr><th>Objective</th><th colspan="2">Content</th><th colspan="2">Practice</th></tr>
<tr><td>Specialization</td><td colspan="2">Broad areas of related disciplines- for example: psychology, sociology anthropology, economics, politics, linguistics etc.</td><td rowspan="5">Attitudes and Values</td><td rowspan="5">Practicum</td></tr>
<tr><td>Understanding and Area Identification</td><td colspan="2">Spectrum of educational issues relevant to research</td></tr>
<tr><td rowspan="3">Skills and Competence</td><td colspan="2">Report writing, dissemination and utilization</td></tr>
<tr><td colspan="2">Approaches, designs, techniques, statistics</td></tr>
<tr><td colspan="2">Research problem identification and conceptualization</td></tr>
<tr><td>Knowledge Base</td><td colspan="2">Philosophy and nature of scientific enquiry</td><td colspan="2"></td></tr>
<tr><td colspan="2">Background of course participants:</td><td colspan="3">Basic academic degree and/or relevant experience</td></tr>
</table>

Figure 1: **A Conceptual Scheme of the Training Programme**

A. GUIDELINES FOR INITIAL TRAINING PROGRAMMES

The Seminar felt that it is appropriate to give an example of a core curriculum which can be modified according to the needs of individual countries or research institutions.

The following is a sample of the way in which a general core curriculum could be set up to be sufficiently flexible and tailored to the needs of individual researchers and research institutions.

Objectives for training programmes

There are several essential elements required in the training of prospective educational research workers, or those with limited experience in conducting research which will equip them to perform in a professional manner. These relate to the attitudes, knowledge and skills and practical applications which are basic to the field of educational research. The Seminar wished to specify the following objectives as crucial ones in the development of initial training programmes.

1) **To give new or inexperienced research workers a broad foundation to research in education:**
   (a) by introducing them to the varying purposes and applications of research;
   (b) by assisting them to acquire a basic understanding of theories, concepts and methodologies fundamental to different areas of educational research and to the different disciplines which may contribute significantly to the field;
   (c) by developing their capacity for concept-building and theorizing about the educational process from different perspectives;
   (d) by developing their capacity for using the tools, methods and techniques required for their future research activities; and
   (e) by developing their capacity to examine and evaluate research literature.

2) **To develop attitudes and values appropriate to scientific enquiry:**
   (a) by encouraging them to have a keen interest in and a professional outlook concerning the activity of research;
   (b) by encouraging them to have an open-minded and critical outlook, as well as habits of rigour and objectivity of thought; and
   (c) by encouraging them to use imaginative, creative and flexible mode of thinking and problem-solving.

3) **To develop an appreciation for the applications of educational research to policy-making and practice in education:**

(a) by providing them with experience in relating research to: (1) classroom planning, administration and the process of learning and instruction; (2) curriculum development; (3) policy making and planning in education; and, (4) personnel management and other professional activities; and

(b) by assisting them to develop skills and strategies for effective communication, especially those concerned with the acceptance and implementation of research proposals, findings and recommendations.

Content of training

As educational researchers have various academic backgrounds and experience discretion will have to be used in preparing training packages for each researcher or group of researchers. The following are some of the suggested content areas:

1) **Philosophy of educational research**

It is basic to sound research practice that researchers appreciate the nature of scientific enquiry. This means that attention needs to be given to logical analysis of theories, epistemological considerations, the nature of objectivity and subjectivity, the need to complement scientific rigour with creative imagination, ingenuity in problem analysis, and a recognition of the complexity of human nature and human interaction. It is important that researchers appreciate that educational research is a commitment to a continuing quest for deeper insight leading to wiser educational practices.

2) **Professional ethics**

Researchers have to deal with personal and private information concerning their subjects and they have to be constantly aware of their obligations in handling such data and for maintaining its confidentiality. They also have to recognize their responsibilities for both the short, and the long-term social effects or use of their investigations. Personal integrity and honesty in research practice, and guarding against personal bias should be stressed. Well-trained researchers are expected to acknowledge the research contributions of others, and to give credit where it is due. The overall aim is to promote a concern for human value.

3) **Research design and Methods**

Due to its multi-disciplinary stance, educational research has a capaci-

ty for variety and flexibility in research design. Training programmes might therefore provide an introduction to common practices such as the planning of surveys, experimental design, replication patterns, ecological strategies, longitudinal enquiries, simulation techniques, ethnographic field studies, case analysis, participant observer or other observational procedures. Each of these approaches, in turn, can be used in a variety of ways. Similarly, training programmes should also provide a sound knowledge of sampling methodologies.

4) Data collection

Training in data collection needs to emphasize that the research problem determines the method of data collection to be adopted. Techniques that might be considered basic in a training programme would include the planning of field or clinical observations, the construction of questionnaires, the use of projective or socio-metric techniques, the use of standardized tests and scales, the use of documents and records, the selection of interview procedure, methods of establishing rapport with informants, the preparation of case studies and other techniques. The important principle to be observed is that the young researcher should learn the importance of using sensitive procedures for data collection which will provide reliable and valid information.

5) Data analysis

A broad basic training in mathematics and statistics is essential for researchers who are to be involved in the quantification of data. Firm grounding in the understanding of statistical concepts was emphasized rather than rote learning of alternative formulas. The content of this section might include measurement theory, parametric and non-parametric statistics, recent trends in multi-variate analysis and an introduction to computer programming. Training should include experience in coding data, and also of the categorization of data from interview contexts, field or clinical observations.

6) Communication skills

By its nature, educational research is concerned with communication, and the success with which teachers, or administrators and others understand the observations produced. Researchers need to be alert therefore to common practice in presenting research findings, both orally and in written form, to audiences of various kinds — professional colleagues, teachers, the media and the general public. Training programmes should include an introduction to the styles of report-writing, editorial skills, bibliographic, copyright and other conventions, and some knowledge of the steps in-

volved in preparing a document for publication.

7) Relating research to practice

A primary purpose of educational research is to improve teaching, learning or administrative practices. Training programmes should therefore provide researchers with a knowledge of the ways in which research has influenced these practices, and the professional outlook of teachers. Efforts should also be made to ensure that researchers has had opportunities to observe contexts, or to examine teaching materials which have been shaped by sound research.

8) Emerging trends

It has been emphasized that training should have an orientation toward the future. Researchers therefore should be stimulated to take an alert interest in the emerging trends, issues and problems of educational research and to have some familiarity with educational forecasting, demographic projections and national objectives. It must be recognized that educational change is slower, more subtle and more complex than in generally admitted.

Modes of training for researchers

The Seminar felt that the modular approach (instructional packages) for training in different areas would be appropriate. This mode of training would allow for multi-level entry for trainees. However, other methods were also recommended such as:

a) internships or apprenticeships involving participation in research projects;
b) workshops, seminars and meetings;
c) special lectures and demonstrations;
d) case study meetings with an inter-disciplinary team of experts;
e) simulation methods;
f) library work and planned programmes of reading;
g) field observation and training in practical situations; and
h) exchange programmes between educational research institutions, regional and international.

A combination of any of the above methods may be used for the training of young educational researchers, either in research units or institutes, through mobile training teams or self-study programmes. Some other suggestions are included in the proposed programme for more advanced training.

Evaluation of training programmes

Evaluation of the usefulness and efficiency of training programmes, and continuous assessment and feedback to improve programmes from beginning to end should be built into their initial planning.

The Seminar proposes the adoption of a general framework for evaluation which is represented in Figure 2. The main features of this framework are as follows:

a) Diagnostic evaluation of the training programme, the instructional process, and the content of training should be made by the learners through their own self-evaluation of their learning, and also their perception of the training programme and processes. Such evaluation should also be carried out by the trainers themselves.

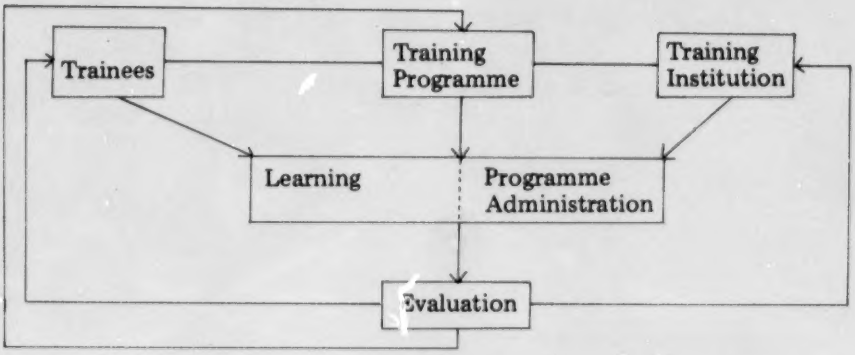

Figure 2: **Schematic Representation of Evaluation of Training Programme**

Note:

A. Types of Evaluation
   1. Evaluation by training institution
   2. Evaluation by trainees themselves

B. Contents of Evaluation
   1. Trainees' learning
   2. Effectiveness of programmes

C. Process of evaluation
   1. Diagnostic evaluation
   2. Formative evaluation
   3. Summative evaluation
   4. Follow-up evaluation
   5. External evaluation

b) *Formative evaluation* should be carried out from time to time throughout the period of training, to monitor the progress of the learners, and of programmes so that they can be modified and improved.

c) At the end of the training period a *summative evaluation* of the same three areas — training programme, instructional process and content of training — should be made both by the learners and trainers in order to assess the effectiveness and efficiency of either the entire programme or specific modules.

d) In order to determine what long-term effects the training programme has on the learners' performance, programme follow-up evaluation of the three areas should be carried out by the learners, particularly in terms of how useful the training programme has been to them. At this point it may also be useful to introduce an evaluator, not associated with the programme, to assess its long-term effectiveness.

The model of evaluation proposed here is not a rigid one, but should be applied flexibly according to the circumstances of training.

The above programme is being submitted by the Seminar with the full awareness that each country and research institution will need to modify it to suit their needs. However, the Seminar felt that the above areas need to be covered in a basic training programme for educational researchers. The above areas are also seen by the Seminar as specifications of the lower part of the schematic diagram presented in Figure 1.

B. GUIDELINES FOR THE FURTHER PROFESSIONAL DEVELOPMENT OF EDUCATIONAL RESEARCHERS

It is increasingly recognized that there are new groups of research workers who have received initial training in educational research and have already been practising researchers for a few years. They have a need to widen their perspectives and to gain new insights and research capabilities. In the light of this situation, the Seminar identified a need for programmes of further training for several categories of educational research workers to enhance their professional development.

Categories of researchers who may require training for further professional development

Researchers requiring more advanced training are likely to be found in three kinds of occupation already noted:

— in schools, as practising teachers and administrators;

— in government ministries, as planners and policy-makers; and
— in research institutes and units, as full-time practising researchers.

Among these research workers, there will be some who have gained experience working with more senior researchers as supervisors, but will now be seeking the capacity to manage research projects independently. Others will already have experience in the independent management of research, but will be looking for training in other areas of research or greater specialization in a particular field. The needs and prior experience of trainees may therefore be very variable, and they will require training programmes designed to fit their individual circumstances and to provide them with experiences they have previously missed.

Some objectives for training programmes

There are three broad aims which any training programme for the further professional development of educational researchers should strive to attain. These are, to widen the researchers' horizons, to deepen their specialization, and to increase their capacity to handle responsibility. More specific objectives which reflect these aims, and which the Seminar considered to particular importance are:

1) **To increase researchers' capacity to assume greater responsibility in their field:**
   (a) by giving them a broader perspective of the education research map — the professional institutions, areas of development and potential utilizations of research;
   (b) by giving them greater familiarity with inter-disciplinary approaches to educational research — the significant contributions to theory and method offered by different disciplines;
   (c) by giving them greater competency in the management of research and the setting of research priorities — research management refers to systematically organizing and directing research projects from their beginning stages until their final implementation; and
   (d) by strengthening their capacity for imaginative, creative and flexible modes of thinking and problem-solving.

2) **To deepen the specialization of researchers in various fields of research:**
   (a) by enabling them to keep up to date with the present state of knowledge and development in specialized areas of research — their theories, concepts and methodologies;
   (b) by encouraging them to advance knowledge in their field;
   (c) by increasing their capability for concept-building and theorizing about the educational process from different perspectives; and

(d) by strengthening their capacity to use the tools, methods and techniques of research.

3) **To increase the capacity of researchers to relate educational research to other professional activities in education:**
   (a) by providing them with experience in relating research to:
      — classroom planning, administration and the process of teaching and learning,
      — curriculum development,
      — policy-making and planning in the development of education,
      — personnel management, and
      — other professional activities; and
   (b) by assisting them to develop skills and strategies for effective communication, especially with those concerned with the acceptance and implementation of research proposals, findings and recommendations.

Content of training and study programmes

A basic principle in determining the content of training and study courses is to expand the researcher's acquaintance with different fields, disciplines and methods of research while respecting the individual's interests and preferences.

Some key content areas which have general importance for all educational researchers at an advanced level are:

1) **New developments in educational research**
   (a) Priorities, problems and areas of need in educational research.
   (b) Theoretical and methodological developments in educational research.
   (c) Theoretical and methodological contributions of different disciplines to educational research.

2) **Research methodology, techniques and statistical analysis**
   (a) Types of research designs and research methodologies.
   (b) Methods and techniques of handling data,
      — organization and presentation of data
      — critical evaluation and interpretation of data
      — utilization of data.
   (c) Theory and techniques of measurement.
   (d) Construction and development of research instruments.
   (e) Use of advanced statistical analysis and the computer.

3) **Relating research and practice**
   (a) Processes of relating research and practice.
   (b) Skills in understanding practitioner's problems.

4) **Management of research**
   (a) Skills in organizing, coordinating and directing research projects.
   (b) Strategies for the setting-up and development of a research unit.

5) **Communication skills in education research**
   (a) Writing research project proposals.
   (b) Skills in the presentation and communication of research findings to different audiences.

6) **Research ethics**
   (a) The ethics of conducting research.
   (b) The ethics of reporting research.

Evaluation of advanced training programme

The evaluation of advanced training programmes could follow the model previously suggested for initial training courses.

Modes of training for researchers

A basic principle in determining appropriate modes of advanced training for educational researchers is the identification of the training needs of individual research workers. Training approaches more or less formal or informal, can then be tailored to their requirements, and experiences provided which they may have formerly missed. Modes of training are also likely to vary according to the place and venue where the training takes place.

Some approaches to training which may prove fruitful in meeting the objectives which have been proposed are:

a) Exposure to library facilities and to readings in research done by experienced researchers, including readings outside the researcher's area of specialization, and self-study programmes.
b) Apprenticeships and attachments to research units and institutions; study visits and exchange visits regionally, nationally and internationally; research fellowships; participation in research projects with senior researchers.
c) Introductions to distinguished visiting scholars.
d) Seminars and workshops in which a variety of teaching methods

may be introduced. These include:

- brainstorming and ideation (creativity) sessions
- techniques for inducing cognitive dissonance
- role playing and sensitivity training
- problem-solving games and exercises.

e) Formal courses specific to a particular need.

f) Supervized preparation and critical evaluation of research publications for varying audiences.

g) Supervised preparation and critical evaluation of seminars, conference papers, media broadcasts and other kinds of public presentation of research.

A POST-SCRIPT

This set of guidelines has been prepared on the assumption that educational research on a large scale, and with implications for policy and practice, has come to stay. Accordingly, the training and professional development of researchers has become a matter of prime importance. The guidelines confirm that the Seminar agreed unanimously that this training should have a solid scientific and professional foundation. In-service training confined to improvised or short-term courses of limited perspective is no longer adequate to cope with contemporary needs. Participants of the Seminar trust these proposals will also illustrate that better provisions for training are essential in promoting a more dynamic professional outlook among educational researchers in Asia and the Pacific. The usefulness of these proposals now depends upon the readiness of research institutions and governments to make provision for participation in training programmes and projects. It is hoped that the significance of the consensus the Seminar has reached will not be underestimated.

Chapter V

SUGGESTIONS AND RECOMMENDATIONS

The discussions and sharing of experience on the training of educational research workers at this Seminar led to the formulation of certain suggestions and recommendations. With respect, the Seminar strongly commends them for the attention of countries in Asia and the Pacific, and to Unesco.

A: CREATING INFRASTRUCTURES

It is recommended to countries of Asia and the Pacific:

1) That adequate attention be given to the funding of educational research and the training of researchers.
2) That more attention be given to career prospects for educational researchers in developing further their training, and professional advancement.
3) That higher priority be given to the promotion of professionalism among educational researchers.

It is recommended to Unesco:

1) That the institutions involved in the training of research personnel be brought together from time to time at national, regional and international levels to allow them to exchange experience, share views and collaborate in providing training experience.
2) That steps be taken to set up inter-country and intra-country research information exchange systems to support and enrich the in-service training programmes for educational researchers in Asian and Pacific countries, and to ensure that an adequate exchange of information on training programmes becomes a permanent feature of international cooperation of the region.
3) That Unesco should take the lead in pooling expertise from member

countries to set up cross-cultural studies in basic areas of learning and instruction as a means of promoting effective innovations in the in-service training of educational researchers.

B. DEVELOPING TRAINING PROGRAMMES

It is recommended to countries in Asia and the Pacific:

1) That the guidelines prepared by this Seminar now be utilized in creating training programmes, modular units and materials, and in providing for the practical experience of researchers.
2) It be noted that this Seminar recognized the different competencies required in various projects or research programmes and in particular, the role of classroom teachers, and other educational practitioners interested in action research, at the school level. It therefore recommends that classroom teachers, and such practitioners be involved in research undertaking in as many ways as possible, and accordingly that they should be properly prepared for the contributions they are expected to offer.
3) That National Commissions for Unesco, the Associated Centres of APEID or other interested institutions in each country be invited to organize conferences to promote an exchange of experience in making provision for the dissemination of research knowledge, the utilization of new findings and for conveying such information to teachers, administrators and the general public.

It is recommended to Unesco:

1) That provisions be made for attachments or internships or exchange programmes for educational research workers from one country to work in projects or programmes in another country as a part of their practical training.
2) Taking into account the guidelines set by this Seminar, training institutions or the Associated Centres of APEID may now consider using these as suggestions in reviewing their courses or developing new programmes. Accordingly it is recommended that Unesco/APEID should take steps to bring together those institutions developing exemplar modules, or training provisions so that a proper sharing of experience can take place during the development or evaluation phase of such activities.
3) That this Seminar be followed by a further conference during the Third Cycle (1982–1986) of the APEID programme to evaluate the

progress which has been made in developing training modules and programmes.

C. REGIONAL COOPERATION IN EDUCATIONAL RESEARCH

The Seminar places on record its deep appreciation of the contribution that the Director General and staff of the National Institute for Educational Research (NIER) has made to the success of its discussions, and for the support the Institute has provided over a number of years to regional cooperation in Asia and the Pacific. Members of the Seminar have expressed the hope that the Institute will continue to cooperate, support and help the developments proposed in this report.

It is therefore recommended to Unesco:

1) That the National Institute for Educational Research (NIER) of Japan be invited to continue its regional activities in promoting the development of research concerned with both the implementation and the evaluation of reforms on educational content or teaching methods, and into the training of educational researchers.
2) That the orientation and promotion of regional efforts in advancing new educational research continue to be strong support and emphasis during the Third Cycle (1982—1986) of the APEID programme.

Annex I

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